

ABSTRACT

The invention provides an auxiliary power unit (APU) and process for electricity generation in combination with an internal combustion engine in which the APU includes a solid oxide fuel cell (SOFC) having an inlet for fuel, an inlet for air and/or engine exhaust gas, and an outlet for off-gas; and a catalytic partial oxidation reformer (CPOx) having an outlet which is connected to the inlet for fuel of the SOFC and an inlet for reactants, wherein the inlet for reactants is connected to an outlet for engine exhaust gas of the internal combustion engine through an evaporator having an inlet for fuel and an inlet for engine exhaust gas and an outlet which is connected to the inlet of the CPOx.